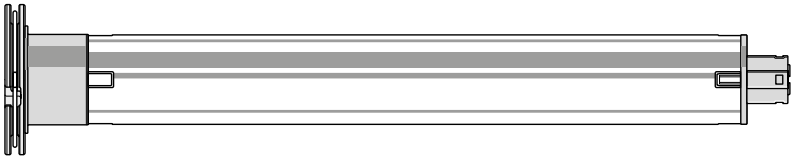
Tubular motor:

GEIGER-SOLIDline

Motor control:

GEIGER SoftPerfectionWireless/X01 (GU45..F03)

for rolling shutters with anti-lift device and stoppers



EN **Original assembly and operating instructions** **EN**

Index

1. General information 2
2. Guarantee 2
3. Intended use 3
4. Safety instructions 3
5. Safety instructions for assembly 4
6. Installation instructions 5
7. Information for the specialist electrician 6
8. Bringing into service 6
9. Learning / deleting the transmitter 7
10. Activate the learning mode for end positions 8
11. Setting of the end positions 9
12. Learning the intermediate position 9
13. Grouped control 10
14. Deactivation of the close range function 11
15. Transmitters 12
16. Starting from the end positions 12
17. Obstacle recognition 13
18. End position correction 13
19. What to do if… 14
20. Maintenance 14
21. Declaration of conformity 15
22. Technical data 16
23. Notes on waste disposal 16

EN

1. General information

Dear customer,

By purchasing a GEIGER motor you have decided on a quality product from GEIGER.

Thank you very much for your decision and the confidence placed in us.

Before you put this drive into operation please observe the following safety instructions. It serves for the prevention of danger and for the avoidance of personal injury and damage to property.

The installation and operating instructions contain important information for the installer, the specialist electrician and the user. Please pass on these instructions if you transfer the product. These instructions should be kept by the user.

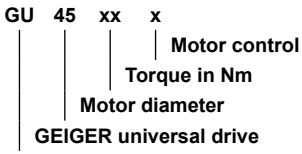
2. Guarantee

In the case of incorrect installation contrary to the installation and operating instructions and/ or constructional modification, the legal and contractual guarantee for property damage and product liability lapses.

3. Intended use

The tubular motors of the model range **SOLIDline (GU45..F03)** with electronic end stop are designed for the operation of rolling shutters with anti-lift device and stoppers.

The motors may not be used for the operation of roller grilles, garage doors, furniture and lifting tools.



4. Safety instructions

ATTENTION: Important safety instructions. For personal safety, it is important to follow these instructions. Please keep these instructions for future reference.

- **Do not allow children to play with stationary controls. Keep remote controls away from children.**
- **The installation is to be checked regularly for defective balance, signs of wear or damaged cables and springs, if relevant.**
- **Do observe the moving sun protection system and keep persons away until it has closed completely.**
- **When operating the manual release with the sun protection system open, please be cautious as it can fall down quickly if springs or tapes wear off or are broken.**
- **Do not operate the device if operations such as, for example, window cleaning are to be carried out in the vicinity.**
- **Disconnect the automatic controlled device from the mains power supply if operations such as, for example, window cleaning are being carried out in the vicinity.**
- **During operation observe the danger zone.**
- **Do not use the installation if people or objects are in the danger zone.**
- **Urgently shut down damaged installations until repair.**
- **Unconditionally shut down the unit during maintenance and cleaning operations.**
- **Pinching and shearing points are to be avoided and must be secured.**
- **This appliance can be used by children aged 8 and above and persons whose physical, sensorial or mental capacities are impaired, or who have no experience or know-how if they have been supervised or been given instructions on the use of the appliance and if they understand the possible resulting dangers. Children are not permitted to play with the device. Cleaning and maintenance should not be carried out by children.**
- **The rated sound pressure level is less than 70 dB(A).**
- **Disconnect the device from the mains power supply for maintenance and replacement of parts.**
  If the motor is disconnected via a plug connection the operator must be able to control - from any place to which it has access – that the plug is removed.
  If this is not possible - due to design or installation - the disconnection from the power supply must be ensured via locking in the disconnected position (e.g. isolator).
- **The motor tube can get very hot during prolonged use.**
  When working on the unit, do not touch the tube before it has cooled down.

5. Safety instructions for assembly

ATTENTION: Important safety instructions. Follow all installation instructions, as incorrect installation can lead to serious injuries.

- **When mounting the motor without any mechanical protection of the driven parts and of the tube which may become hot, the motor must be installed at a height of at least 2.5 m above the ground or of another level which provides access to the drive.**
- **Before the motor is installed, all cables which are not needed are to be removed and all equipment which is not needed for power-operated actuation is to be put out of operation.**
- **The actuating element of a manual release must be mounted at a height of less than 1.8 m.**
- **If the motor is controlled by a switch or pushbutton, the switch or pushbutton must be mounted within eyeshot of the motor. The switch or pushbutton must not be located in the vicinity of moving parts. The height of installation must be at least 1.5 m above the floor.**
- **Permanently installed control devices must be attached visibly.**
- **In case of devices extending horizontally, a horizontal distance of at least 0.4 m must be respected between the fully extended part and any other fixed element.**
- **The rated speed and the rated torque of the motor must be compatible with the device.**
- **The mounting accessories that are used must be designed in accordance with the selected rated torque.**
- **Good technical knowledge and good mechanical skills are necessary for the motor installation. Incorrect installation can lead to serious injury.**
  Electrical work must be carried out by a qualified electrician in accordance with the regulations in force locally.
- **Only use connecting cables that are suitable with the environmental conditions and which meet the construction requirements. (see accessories catalogue)**
- **If the device is not equipped with a connecting cable and a plug, or other means for disconnecting from the mains with a contact opening on each pole according to the conditions of the overvoltage category III for full disconnection, a disconnecting device of this type must be incorporated into the permanently installed electrical installation according to the wiring rules.**
- **Do not mount the connecting cables near hot surfaces.**
- **A plug for the disconnection of the motor from the power supply must be accessible after installation.**
- **Damaged connecting cables must be replaced by GEIGER connecting cables of the same type.**
- **The device must be mounted as described in the installation instructions. Fixations shall not be made with adhesives since they are regarded as unreliable.**

EN

6. Installation instructions

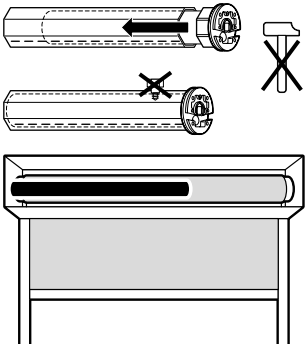
Before fixing, the strength of the masonry or of the subsurface is to be checked.

Prior to installation please check to ensure there is no visible damage to the motor like cracks or open cables.

Caution: If the tube is screwed/riveted to the drive, the measure must be taken from the tube end to the center of the drive and marked on the tube.

When drilling the winding shaft **never** drill into the area of the tubular motor!

When inserting into the shaft, the tubular motor must **not** be struck and must **not** be allowed to fall into the shaft.



Installation into the rolling shutter:

Insert motor with a suitable adapter and drive into the shaft up to the stop of the shaft adapter.

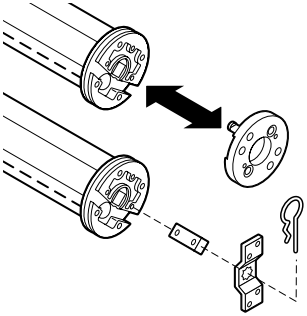
Fix the motor support on the side piece.

Fix the motor together with the shaft on the motor support.

Depending on the selected motor head, different fixation systems can be used:

- Place the motor with square insert in the star-shaped bearer and lock with pin
- Place the motor into the existing engine bearer and lock
- Place the motor in a compatible engine bearer with clip system and lock with spring or rotating lever

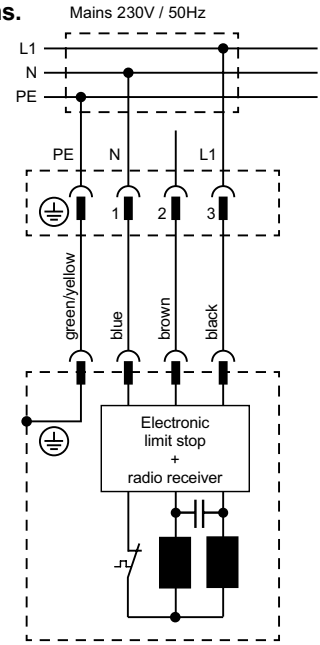
The GEIGER-SOLIDline motor is suitable for shaft diameters from 50 mm!



EN

7. Information for the specialist electrician

Caution: Important installation instructions. Please follow all instructions since incorrect installation can lead to the destruction of the motor and the switching unit.



The operations with the service clamps may be accomplished only by an electrical specialist.

Motors with electronic limit stops can be connected in parallel. In this case the maximum load of the switching unit must not be exceeded.

When changing the running direction the switchover must be effected through an off-position.

When changing the running direction the switchover time must be at least 0.5 s.

With a three-phase network, please use the same external conductor in order to control the UP and DOWN directions.

PVC cables are not suitable for equipment used outdoors or exposed to prolonged high levels of UV radiation. These cables should not be used if they are likely to touch metal parts that can heat up to temperatures exceeding 70°C.

Connecting cables with plug connectors of the Hirschmann Company are tested and approved with couplings of the Hirschmann Company.

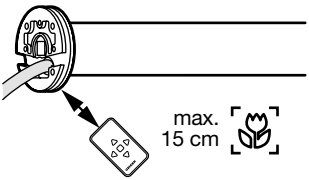
8. Bringing into service

Definition of “short range”:

Distance of the transmitter to the motor control: max. 15 cm,

or

hold at the transmitter directly on to the motor connecting cable. The motor connecting cable thus serves up to a length of 3 meters as an “antenna”.

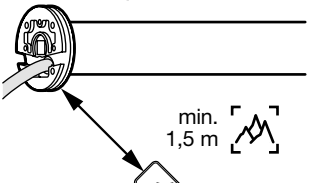


Definition of “long range”:

Distance of the transmitter to the motor control: min. 1,5 meter,

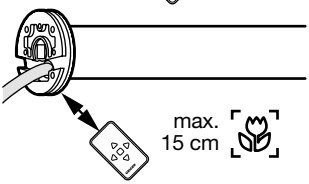
or

Distance of the transmitter to the motor connecting cable: min. 0,5 meter.



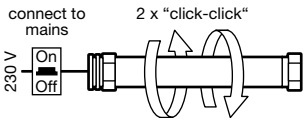
Learning the transmitter

Hold the handheld transmitter at short range and hold key UP or DOWN pressed.



Switch on the power supply. After 2 seconds, the motor confirms with 2 x “click-click” that the learning is completed.

Up to 3 transmitters can be programmed that way.



EN

9. Learning / deleting the transmitter

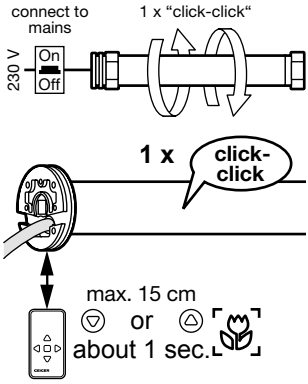
Activate the learning mode (only necessary for further transmitters):

Connect the motor to the power supply.

Switch on the mains. The motor makes a short back and forth movement (1 x “click-click”). At short range press UP or DOWN key and keep it pressed for about 3 seconds until the motor confirms (1 x “click–click”).

After each interruption of the voltage supply, the learning mode **can** be activated for 30 min.

The learning mode is necessary in order to learn transmitters or to adjust the end positions.



The learning mode must be activated first in order to learn / delete the transmitter.

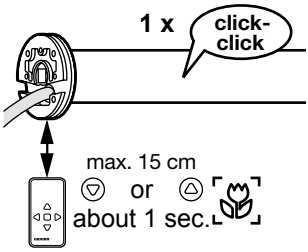
If no action takes place within 60 seconds, the learning mode is deactivated. The motor returns to normal operation (3 x “click-click”).

Learning the transmitter

The learning mode must be activated first in order to learn / delete the transmitter.

At short range press UP or DOWN key for about 1 second. The motor confirms (1 x “click-click”).

The transmitter is taught to the motor.

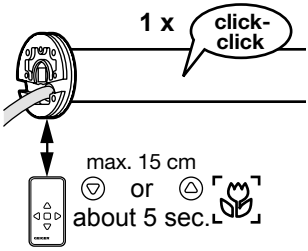


EN

Deleting the programmed transmitter

The learning mode must be activated first in order to learn / delete the transmitter.

At short range, press the UP or DOWN key for about 5 seconds. The motor reacts immediately (1 x “click-click”). Keep the key pressed about 5 sec. until the motor confirms the deleting of the transmitter with 1 x “click-click”.



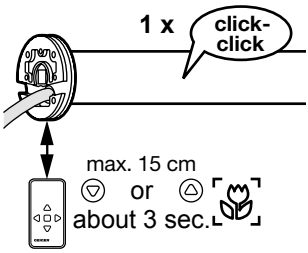
Please note: You can only delete all transmitters and sensors together. It is not possible to delete an individual transmitter / sensor.

10. Activate the learning mode for end positions

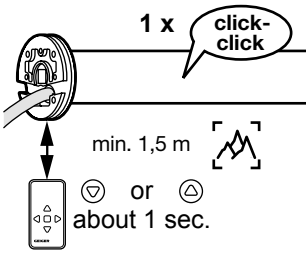
Test before setting the end position if the motor is already in the learning mode for end positions. The motor jerks (start, stop, start) at each run command to confirm the learning mode activation. If this is not the case, the learning mode and the learning mode for end positions must be activated.

Activate the learning mode

At short range press UP or DOWN key for about 3 seconds.
The motor confirms (1 x “click-click”).



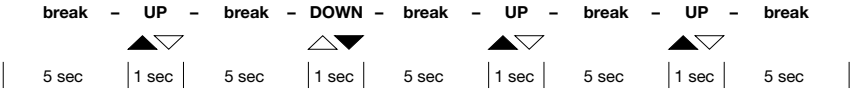
At long range press UP or DOWN key for about 1 second.
The motor confirms (1 x “click-click”)..



In order to modify or delete the end stops, a new programming must be carried out. (see point “setting of the end positions“).

Alternative:

Following operations can be carried out:



Please note: a break of at least 5 seconds must be respected between two operations.

EN

11. Setting of the end positions

In order to set the end positions, the learning mode for end positions must be activated. The motor jerks (start, stop, start) at each run command to confirm the learning mode activation.

Important: the lower end stop must be set first.

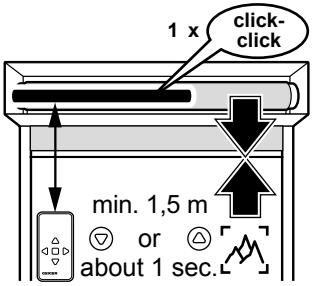
The distance between the upper and lower end stops must be about 25 cm which corresponds to one tube rotation at least.

1. Keep UP or DOWN key pressed to move the shutter to the lower end position. After 3 seconds, the motor switches to automatic mode and the key can be released.
2. The shutter moves downwards till the lower stop and the motor switches off.
3. The shutter moves now automatically to the upper end position. When the shutter has reached the upper position the motor shuts off.
   During the repeated „clack-clacks“, you have time to press twice the DOWN key to start the learning cycle again.
   After the fourth „clack-clack“ the learning process is completed and the motor returns to normal operating mode. The UP and DOWN keys are now assigned to the corresponding rotation direction of the motor.

12. Learning the intermediate position

Travel from any position to the selected end position, stop with the stop key or the opposite key and hold key pressed for approx. 3 sec. until the motor responds (1 x “click click”). Then release the key.

The intermediate position is now stored.

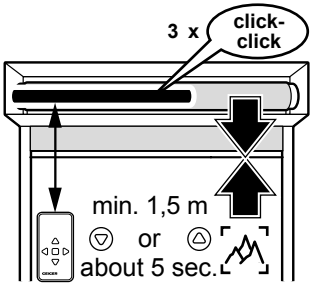


Changing the intermediate position

See “learning the intermediate position” and select a new intermediate position.

Deleting the intermediate position

Stop the rolling shutter from UP or DOWN movement and keep key pressed for about 5 sec. – the motor responds with 1 x “click-click” after 3 sec. – until the motor confirms the deletion (3 x “click-click”).



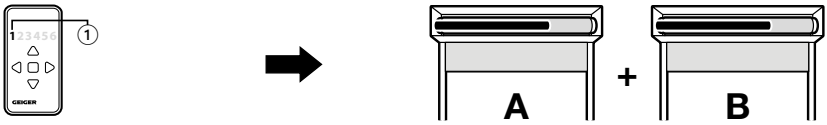
EN

13. Grouped control

(see also point Learning / deleting the transmitter)

1. Operate together rolling shutter A and rolling shutter B with a one- channel transmitter.
Rolling shutters A + B

1. Actuate key 3 sec. at close range to activate the learning mode of rolling shutter A.
2. Actuate key 1 sec. at close range to program the transmitter of rolling shutter A.
3. Actuate key 3 sec. at close range to activate the learning mode of rolling shutter B.
4. Actuate key 1 sec. at close range to program the transmitter of rolling shutter B.



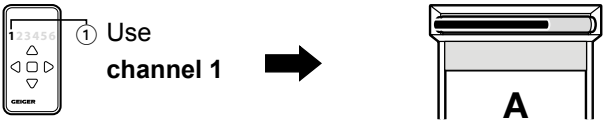
Same operation for **three** or **more** rolling shutters.

EN

2. Individual or grouped control of rolling shutter A + rolling shutter B with a 6-channel transmitter.

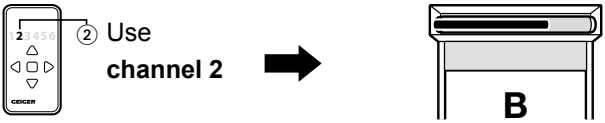
Rolling shutter A

1. Actuate key 3 sec. at close range to activate the learning mode of rolling shutter A.
2. Actuate key 1 sec. at close range to program the transmitter of rolling shutter A.



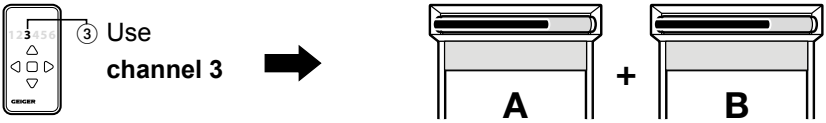
Rolling shutter B

1. Actuate key 3 sec. at close range to activate the learning mode of rolling shutter B.
2. Actuate key 1 sec. at close range to program the transmitter of rolling shutter B.



Rolling shutters A + B

1. Actuate key 3 sec. at close range to activate the learning mode of rolling shutter A.
2. Actuate key 1 sec. at close range to program the transmitter of rolling shutter A.
3. Actuate key 3 sec. at close range to activate the learning mode of rolling shutter B.
4. Actuate key 1 sec. at close range to program the transmitter of rolling shutter B.



14. Deactivation of the close range function

If two motors are installed so that both trigger in the close range, there is the option of deactivating the close-range function in one of the two motors.

The prerequisite is that the motors must be assigned to different key pairs.

To deactivate the close-range function, move the selected rolling shutter to the upper end position, push the UP key and keep it pushed for about 5 seconds until the motor confirms (2 x “click-click”).

The motor must be briefly disconnected from the mains to activate the close-range function.

15. Transmitters

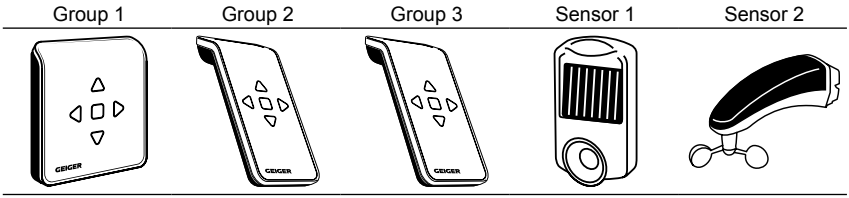
A maximum of three different transmitters can be taught-in. The motor can therefore be a part of three independent groups. Additionally, two sensors can be taught-in.

Should there already be three transmitters and you attempt to teach-in a fourth, the old third transmitter will be deleted and the new one will replace it.

Should there already be two sensors and you attempt to teach-in a third, the second one will be deleted and the new one will replace it.

Example:

Remote Receiver in the Motor



Programming from short range / long range

An approximation detector is integrated in the motor's remote receiver, which recognizes whether a remote transmission is being operated from a distance = long range, (at least 1,5 meters from the motor control and 0,5 meters from the motor cables), or in tight on the antenna = short range, (maximum 15 cm away and directly on the motor connection cable).

Caution: Should remote receivers or motor connection cables lie near one another, codes could unintentionally be transferred to other remote receivers.

Recommendation:

Motors operated via a different pair of keys, or through a different transmitter, should be disconnected from the power line during initial operation.

By the handheld and wall transmitters of the LC series the first 6 digits are configurable. The DIP switch Nr. 7, 8 and 9 have no functions.

16. Starting from the end positions

EN

No intermediate position has been programmed:

To start from the end positions, a short key pressure in the corresponding direction of movement is sufficient.

To stop the movement, a short key pressure in the opposite direction is sufficient.

Should a sun-wind sensor be integrated into the system, the end positions are started in automatic mode (sun-on).

An intermediate position is programmed:

To start from the end positions, the key corresponding to the correct direction of movement must be pressed for **at least 1,5 seconds**.

With a short key press of **under 1.5 seconds**, the **intermediate position** is travelled to. For stopping the travel movement a short key press in the opposite direction is sufficient.

Should a sun-wind sensor be integrated into the system, the end positions are started in automatic mode (sun-on).

17. Obstacle recognition

When, after the teaching of the first complete, uninterrupted travel from one end position to the other end position is carried out, the torque needed is learnt.

In any following complete, uninterrupted travel from end position to end position, the torque needed is automatically reset. Slow changes in the installation due to ageing, soiling, cold or heat are thus automatically taken into consideration. This process occurs for both run directions independently of one another.

If a travel movement in UP or DOWN direction is blocked by an obstacle, the motor switches off. The running direction in which the obstacle was recognized is blocked after the motor has tried several times to achieve the end position. The block is removed if the motor has been operated in the opposite direction for a certain time. An obstacle must thus first be released before the motor can be operated again in the direction of the obstacle.

18. End position correction

The engine needs to be taught with the end stops (stopper and anti-lift device).

Checking of the end position, and if appropriate an end position correction, takes place after 5, 20, and then every 50 cycles.

Should a hangings elongation have resulted, due to temperature changes, this is corrected at the next end position correction.

If, due to temperature changes, modified winding behaviour should arise and the hangings should run against the stop, an immediate end position correction takes place. In addition, the counter for the end position correction is started afresh.

19. What to do if…

Problem	Solution
Motor does not run.	• Motor not plugged in. Please check the plug connection. • Check connecting cable for possible damage. • Check the mains voltage and allow the cause of the voltage breakdown to be tested by a specialist electrician.
Instead of in the upwards direction, motor runs downwards.	• End position order was not observed. Reset end stops.
Transmitter does not work.	• Check the battery. • The wind sensor has triggered. Try it again after the expiry of the wind cut-off time. • Inadvertent deletion of the transmitter • Start learning again.
After running several times, the motor breaks down and no longer responds.	• The motor became too hot and has switched off. Try it again after a cooling time of about 15 min.
The motor no longer runs automatically.	• The sun automatic control mechanism was switched off. • The wind sensor has triggered. Try it again after the expiry of the wind cut-off time. • Inadvertent deletion of the transmitter. Start learning again.
The motor jerks during starting (start, stop, start).	• The motor is in learning mode. The minimum travel distance might have been under passed.
The motor does not react to the short range.	• Move as close as possible to the motor head or the connecting cable. • Exchange the batteries in the transmitter. • The short range is deactivated. In order to activate the short range, disconnect the motor from the power supply for about 3 seconds. • The learning mode time is over (30 minutes).

EN

20. Maintenance

The drive is maintenance-free.

21. Declaration of conformity

GEIGER Antriebstechnik

EC Declaration of Conformity

Gerhard Geiger GmbH & Co. KG
Antriebstechnik
Schleifmühle 6

D-74321 Bietigheim-Bissingen

Product: Venetian blind motor, motor for rolling shutter, motor for awnings

Type designation: **GJ56..**

GR45..

GU45..

GSI56..

The designated product is in conformity with the European Directive:

2006/42/EC

"Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 for the approximation of laws, regulations and administrative provisions of the Member States concerning machinery".

2004/108/EC

"Directive 2004/108/EC of the European Parliament and of the Council of 15 December 2004 on the approximation of the laws of the Member States relating to electromagnetic compatibility and repealing Directive 89/336/EEC"

The conformity of the designated product with the provisions of the directives is proved in particular by full compliance with the following standards:

DIN EN 60335-1	DIN EN 55014-1	DIN EN 61000-3-2
DIN EN 60335-2-97	DIN EN 55014-2	DIN EN 61000-3-3
DIN EN 62233		

The accredited VDE Testing and Certification Institute (EU Identification No. 0366) Merianstr. 28, D-63069 Offenbach, tests and certifies for the company Gerhard Geiger GmbH & Co. KG.

Authorised representative for technical data: Gerhard Geiger GmbH & Co. KG
Address: Schleifmühle 6, D-74321 Bietigheim-Bissingen

Bietigheim-Bissingen, 24.06.2015

Hans-Michael Dangel (General Manager)

EN

22. Technical data

Technical data of tubular motor SOLIDline-KS (GU45..)					
	GU4510	**GU4520**	**GU4530**	**GU4540**	**GU4550**
Voltage			230 V~/50 Hz		
Current	0,47 A	0,63 A	0,8 A	1,0 A	1,0 A
Cos Phi (cosφ)			>0,95		
Inrush current (factor)			x 1,2		
Power	105 W	140 W	180 W	220 W	220 W
Torque	10 Nm	20 Nm	30 Nm	40 Nm	50 Nm
Speed	16 rpm	16 rpm	16 rpm	16 rpm	12 rpm
Protection class			IP 44		
Total length[1)]	516,5 mm	546,5 mm	566,5 mm	586,5 mm	586,5 mm
Operating mode	S2 4 min	S2 5 min	S2 4 min	S2 4 min	S2 4 min
Sound pressure level[2)]	39 dB(A)	41 dB(A)	41 dB(A)	43 dB(A)	-
Diameter			45 mm		
Weight	approx 1,90 kg	approx 2,20 kg	approx 2,40 kg	approx 2,70 kg	approx 2,70 kg
Ambient temperature / humidity	Operation: T = -10°C .. +60°C / H max. 90% Storage : T = -15°C .. +70°C / dry and non-condensing place				

[1)] **SOLIDline-ZN**: -1 mm / **SOLIDline-COM** + 3,5 mm / **SOLIDline-SOC**: + 3 mm

[2)] The average sound pressure level data are intended for guidance only. The values were determined by GEIGER at a distance of 1 m, with a hanging motor at idle speed and averaged over 10 seconds. There is no reference to any specific test standard.

Subject to technical modifications

23. Notes on waste disposal

Recycling of packaging materials

In the interest of environmental protection, please contact your local government's recycling or solid waste management department to learn more about the services it provides.

Waste disposal of electric and electronic equipment

Electrical and electronic equipment must be collected and disposed of separately in accordance with EU regulations.

EN

For technical questions, please call our service team at: +49 (0) 7142 938-333. They will be happy to assist you.

GEIGER Antriebstechnik

Gerhard Geiger GmbH & Co. KG
Schleifmühle 6
D-74321 Bietigheim-Bissingen
Telephone: +49 (0) 7142 938-0
Telefax: +49 (0) 7142 938-230
E-Mail: info@geiger.de
Internet: www.geiger.de